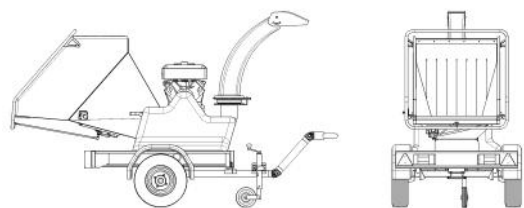




COUGAR 18 ER / 17 DR

TECHNICAL MANUAL



EXPERT IN MOBILE WOOD CHIPPERS

www.ts-industrie.eu





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BREVET D'INVENTION

Code de la propriété intellectuelle-Livres VI

DECISION DE DELIVRANCE

Le Directeur général de l'Institut national de la propriété industrielle décide que le brevet d'invention n° ~~00 000 000~~ dont le texte est ci-annexé est délivré à :
SAELEN S.N.S. Société anonyme - FR

La délivrance produit ses effets pour une période de vingt ans à compter de la date de dépôt de la demande, sous réserve du paiement des redevances annuelles.

Mention de la délivrance est faite au Bulletin officiel de la propriété industrielle n° ~~0100 00 0000 01~~ (n° de publication ~~0 000 000~~).

PATENT FOR INVENTION

Intellectual property law-Books VI

GRANTING DECISION

The General Manager of the National Institute of industrial property has decided that invention patent # ~~##-####~~ the text of which is appended shall be delivered to:
SAELEN S.N.S. Company - FR

The delivery produces its effects for a period of twenty years starting on the date of deposit of the application, under reserve of payment of the annual royalties.

Mention of the delivery is made in the Official Bulletin of industrial property ~~####/##~~ of ~~##:##:##~~ (publication # ~~## ###~~).

D. HANGARD

INSTITUT
NATIONAL DE
LA PROPRIÉTÉ
INDUSTRIELLE

SIEGE

26 bis, rue de Saint Petersburg
75000 PARIS cedex 08
Téléphone : 01 53 04 53 04
Télécopie : 01 42 93 59 30

ETABLISSEMENT PUBLIC NATIONAL

CRÉE PAR LA LOI N° 51-444 DU 19 AVRIL 1951



INTRODUCTION

We first of all wish to thank you for having chosen this equipment and for the trust you have placed in us.

It is important to carefully read this manual in order to obtain maximum satisfaction from the equipment.

Although the machine is of simple design and is easy to use, we advise you to carefully read this notice before using it.

Although your multi-plant shredder is safe, efficient and simple to use, you should become fully acquainted with the operating, maintenance and troubleshooting instructions contained in this manual.

This user manual covers all the operating functions of the **COUGAR** shredder. Keep it within reach for further reference. For additional information, technical data or additional copies of this manual, please contact your dealer.

Safety instructions:



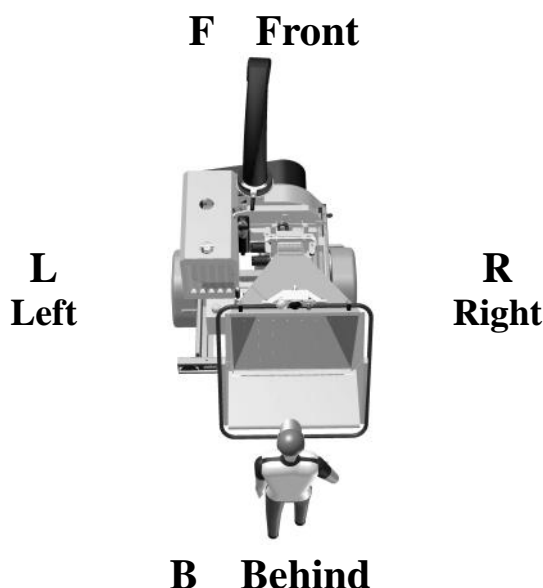
This equipment is **only designed for the crushing and shredding of plants.**

Besides crushing and shredding plants, the equipment should only be used by people **over the age of 16.**

The equipment should only be used by someone who is **in good physical condition with a degree of technical knowledge.**

Maintenance work should be carried out by a **qualified technician.** All assembly, disassembly and/or specific maintenance work should be carried out by an authorised distributor. Before working or carrying out maintenance on the equipment, **always remove the ignition key.**

Operator orientation: The directions left, right, forward and backward are given in this manual as seen by the operator at his work station, facing the feed hopper.





INTRODUCTION

Safety instructions:



This equipment is **only designed for the shredding of wood and plants**.
The **COUGAR** machine cannot be used for any other purpose
than **the shredding of wood and plants**.
The equipment should only be used by people **over the age of 16**.

This machine should only be used by someone who is **in good physical condition with a degree of technical knowledge**.

Maintenance and repair work should be carried out by a **qualified technician**. All assembly, disassembly and/or specific maintenance work should be carried out by an authorised distributor.

Before working or carrying out maintenance on the equipment, **always remove the ignition key**.

When carrying out maintenance on the equipment, carefully follow the instructions.

Eliminate pieces of metal, plastic, rubber and any other material that may be mixed in with the waste.

Always wear protective goggles, work gloves and ear protection;

The machine must under no circumstances be used to transport equipment, material or people.

The machine cannot be used to push or pull anything.

Battery acid is very corrosive. Avoid all contact with eyes, skin and clothing. Rinse any splashes immediately with water and consult a doctor as necessary.

Always disconnect the cable connected to the + battery terminal before touching the electric circuit

Always keep the battery out of the reach of children.

Carry out all maintenance on the equipment in a well-lit area.

Follow the safety standards given in the user and maintenance manual for the engine.

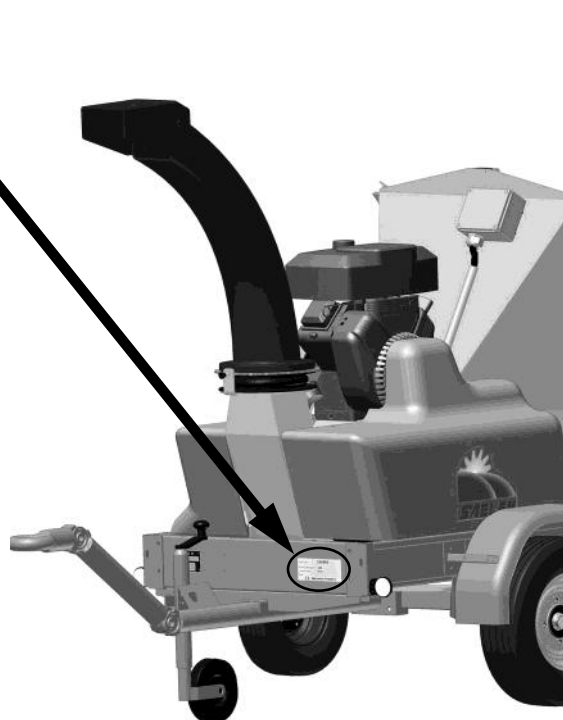
Keep children away from the machine whilst it is in operation or when carrying out maintenance work on it. Do not work in a confined space. Do not run the engine in an unventilated area (risk of CO₂ poisoning).



LOCATION OF THE SERIAL NUMBER

When ordering replacement parts or requesting technical information, always have the serial number of your **COUGAR** shredder ready.

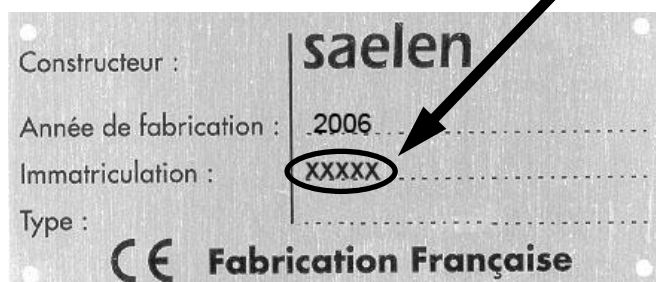
The manufacturer's plate is on the front left of the chassis.



The serial number is located as indicated in the photo.

It is always a **five figure number** and is sometimes followed by a letter.

Serial number





WARRANTY

SAELEN guarantees the parts of its shredders against any defect that could affect their correct functioning. The guarantee applies in all cases where the damage is not the result of improper use, misuse or negligence, accident, act of God or any other circumstance beyond the control of SAELEN. This guarantee covers a period of one year starting on the date of delivery to the customer and is limited to the replacement of defective parts and/or of labour.

CLAIMS

A claim in due form shall be presented to SAELEN by the original purchaser, for inspection by an authorized representative of the company.

LIMITED LIABILITY

The present guarantee replaces all other express and implicit guarantees as well as all presumed obligations and liabilities. We do not accept or authorise a third party to endorse a liability concerning the sale of a plant shredder.

This guarantee does not apply to any shredder that has been modified outside of our workshops and that, according to SAELEN standards, would be affected in terms of its operation, safety and service life.

This guarantee does not cover parts and accessories that are already under the guarantee of their manufacturer and the servicing of which is covered by the latter's administration. Service items such as lubricants, belts, paint and similar are not subject to guarantee.

USER MANUAL

The purchaser acknowledges having received instructions concerning the correct operation of the shredder and also acknowledges that SAELEN does not assume any responsibility resulting from the use of this product other than that described in the user manual supplied at the time of purchase.

**DO NOT FORGET TO REGISTER YOUR
WARRANTY OTHERWISE IT WILL BECOME INVALID.**



SAFETY

You are responsible for the safe use and the maintenance of your plant shredder. You should thus ensure that whoever uses, maintains and works with the equipment has knowledge of the operating and maintenance methods as well as the safety measures to apply as described in this manual. The user manual informs you of the safety procedures to follow when using the plant shredder.

Remember that you are responsible for the safety of the equipment and should take all precautions in order to protect yourself and those around you. Ensure that **EVERYBODY** who works with this equipment knows how to operate and maintain it. The prevention of accidents is of the utmost importance. Follow the safety measures explained in this manual in order to prevent all injury.

- Before using the plant shredder, it is the duty of the owner to ensure that all possible operators or employees have the user instructions.

- The most important safety feature of this equipment is a safe operator. It is the operator's duty to read and understand all the safety and operating instructions and to scrupulously follow them in order to prevent accidents.

- No one should handle the **COUGAR** shredder if they have not read and understood the machine's instructions. An operator who has not read and understood the instructions exposes himself and others to the risk of accidents.

- **It is not authorised to modify the equipment in any way whatsoever. Any unauthorized modification could affect its operation and safety, and possibly reduce the service life of the equipment.**

THINK CAUTION!
WORK IN COMPLETE SAFETY.



GENERAL SAFETY

1) Read and understand the user manual and all the safety symbols before operating, maintaining, unjamming or adjusting the plant shredder.



2) Keep a first aid kit in case of accident.
Keep it in a visible place.



3) Keep a fire extinguisher within reach in case of fire.
Keep it in a visible place.



4) Use appropriate protective equipment. Here are a just a few suggestions; do not limit yourself to them:

-Helmet and ear protection



-Work shoes with non-slip, steel soles.



- Protective goggles

-Work gloves and waterproof clothing



5) Never operate without the protector.

6) Move people, especially children, away from the machine when in operation.



GENERAL SAFETY

Meaning of safety stickers.



Read and understand the user manual and all the safety symbols before operating, maintaining, unjamming or adjusting the plant shredder.

Ear protection



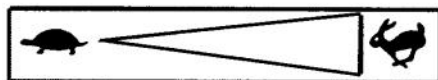
Protective goggles

Work gloves and waterproof clothing



Danger rotating blades

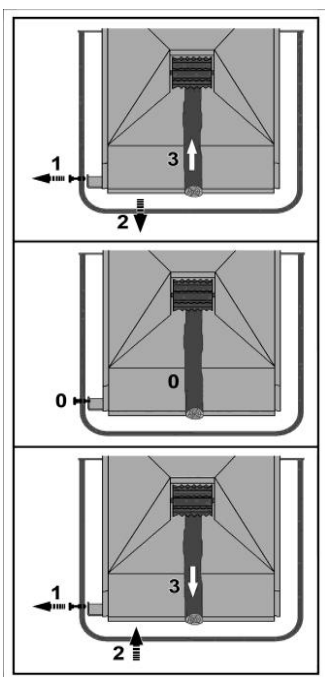
Minimum engine speed



Maximum engine speed



Lubrication point



Rotation commands of the conveyor belt:

Chipping material (forward operation)

- 1 : Unlocking the finger indexing
- 2 : Pull the handle rearward

Stop the rotation of the feed rolls

- 0 : Location locked by the finger indexing

Releasing material (backward)

- 1 : Unlocking the finger indexing
- 2 : Push the stick forward



SAFE USE

1) Read and understand the user manual and all the safety symbols before operating, servicing, adjusting, repairing or unjamming the machine.



2) Install and ensure that all the protectors and guards are securely attached before starting or working the machine.

3) Keep hands, feet, hair and clothing away from moving parts.

4) Before carrying out maintenance on, adjusting, repairing or unjamming the machine, put the engine into idle speed using the accelerator handle, wait until all moving parts have stopped, stop the engine.

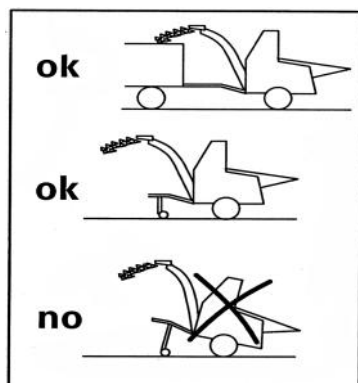
5) Place all controls to neutral before starting the machine.

6) Move people, especially children, away from the machine before starting it.

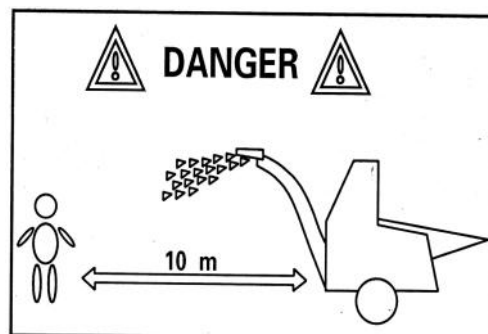
7) Wear appropriate protection for the work undertaken.



8) Always ensure the machine is in a horizontal position when connected up. In order to prevent the machine from wobbling, always work in a horizontal position if the machine is disconnected.



9) During shredding, there is the risk of the projection of chips within a radius of 10 metres.





SAFE MAINTENANCE

- 1) Follow all the instructions in the user manual concerning the operating, maintenance and safety of the machine.
- 2) Before carrying out maintenance on, adjusting, repairing or unjamming the machine, put the engine into idle speed using the accelerator handle, declutch the machine and wait until all the moving parts have stopped, stop the engine, remove the ignition key.
- 3) Ensure that all the protectors and guards are securely attached after carrying out maintenance on or servicing the shredder.
- 4) **Warning!** Keep hands, hair and clothing away from moving parts.
- 5) Install and ensure that all the protectors and guards are securely attached before starting or working the machine.
- 6) Never wear badly cut, loose or frayed clothing when working on the command system components.



ATTENTION



Read the operating instructions before use.

The fuel should be free of water and impurities.

Ensure the fastenings are secure after 30 hours, then every 150 hours.

Follow the lubrication schedule.

Do not unjam the machine with the starter or the clutch.



SAFE MAINTENANCE

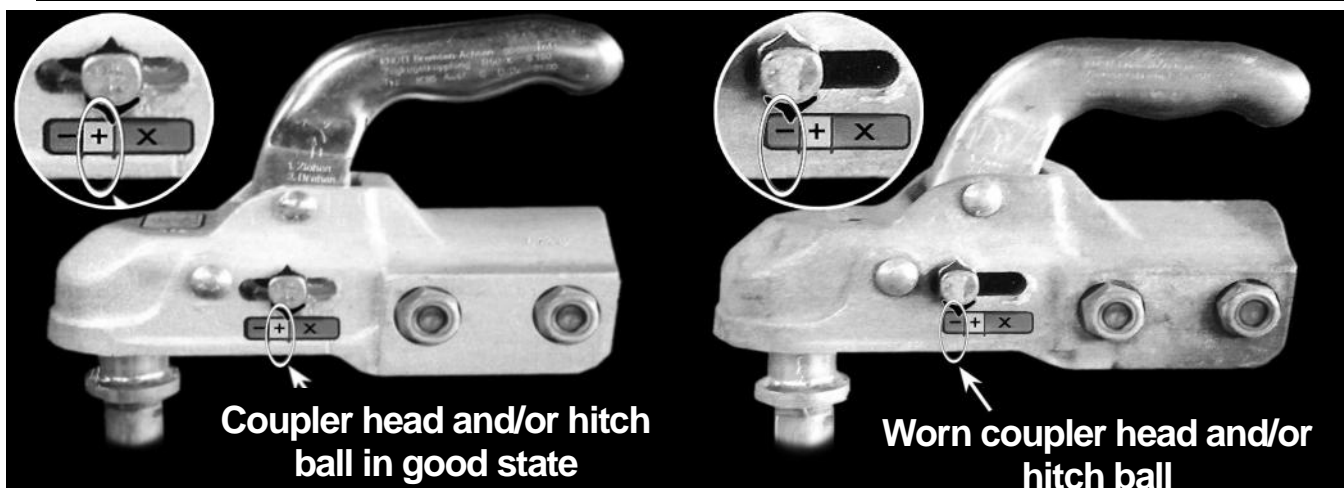
- 1) Follow the highway code in force.
- 2) Ensure that your equipment is always equipped with working signalling lights that are clean and visible to other drivers.
- 3) Reduce your speed on country roads and bumpy surfaces.

Coupling wear indicator:

Check the wear indicator each time you hitch the machine to a vehicle.

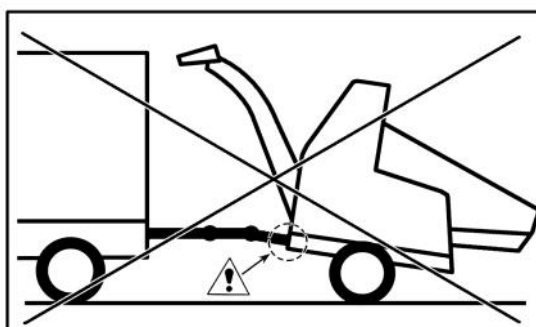
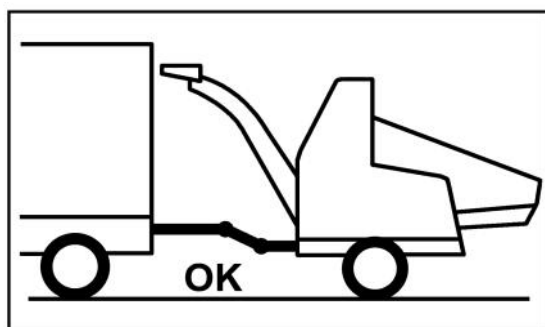
Systematically change the vehicle's coupler head and/or hitch ball if the indicator is in the MINUS zone to avoid losing the shredder when going over road humps or when reversing up a curb.

YOU WILL BE HELD RESPONSIBLE IN CASE OF AN ACCIDENT



Hitching to a vehicle:

Always hitch the shredder in a horizontal position in order to prevent the machine from tipping backwards **AND** check that the tow bar's nut joints are secure on a daily basis to prevent jolting which would damage the hitch and tow system and reduce its lifespan.





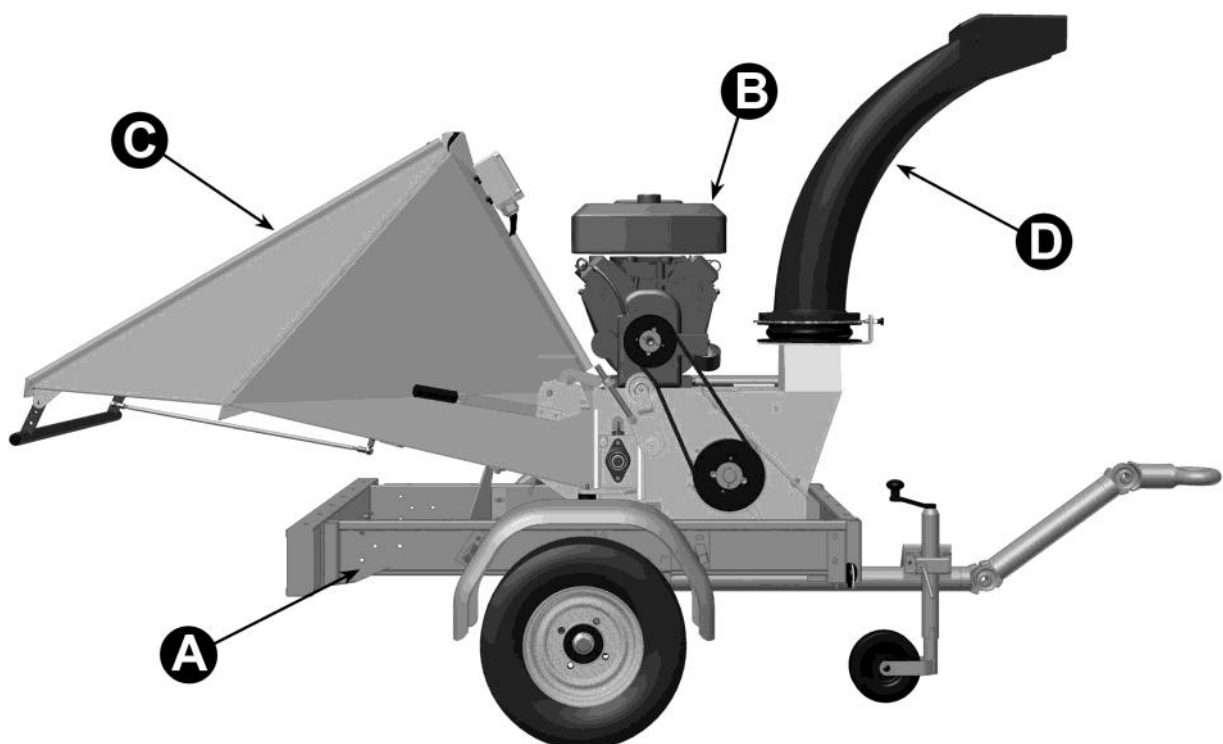
GENERAL DESCRIPTION AND FUNCTIONS

DESCRIPTION

The **Saelen Cougar** multi-plant shredder is intended for the shredding of plants and branches up to 3.93 Inch in diameter.

The machine includes the following main components:

- (A): chassis
- (B): engine and its various drives
- (C): shredding unit
- (D): discharge shaft





GENERAL DESCRIPTION AND FUNCTIONS

A. The chassis.

The chassis supports the various components of the shredder. It allows the independent movement of the machine.

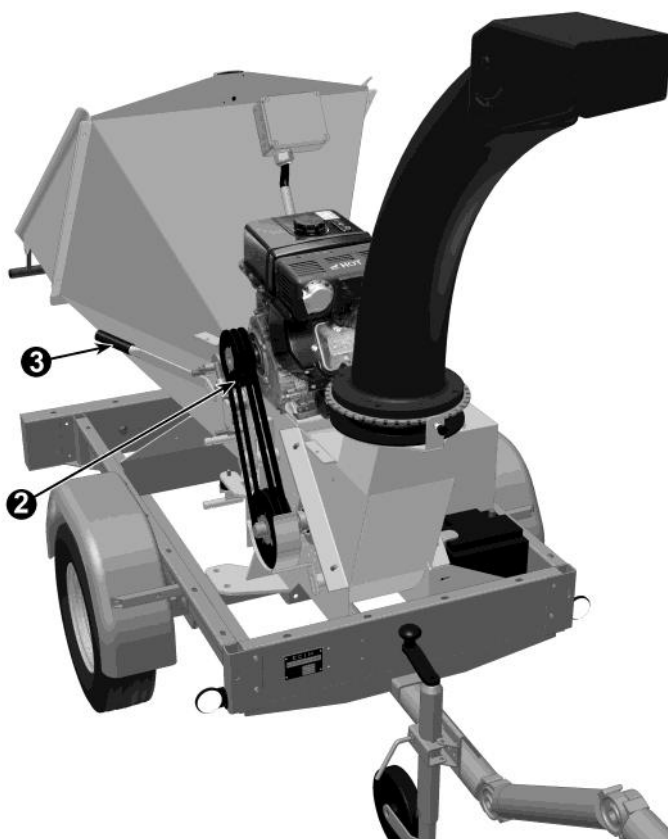
B. The engine and its drives.

The petrol or diesel heat engine is located above the shredding unit. It supplies the energy required to drive the rotor and the hydraulic circuit's oil pump (1).

The engines are the Vanguard 18 Hp two-cylinder petrol engine, or the Lombardini 17 Hp two-cylinder diesel engine, all 3600rpm. For additional information on these engines, please refer to the manufacturer's manual.

The outlet drive shaft is equipped with a pulley (2) activating two belts that drive the shredding rotor. The tension of the belts is adjusted using the lever (3).

The hydraulic circuit's oil pump, located on the heat engine, activates the hydraulic motor of the feed drum.





GENERAL DESCRIPTION AND FUNCTIONS

The hydraulic motor of the feed drum is activated using the bar (1) located underneath the rear of the feed hopper after first unlocked the finger indexing (2) .

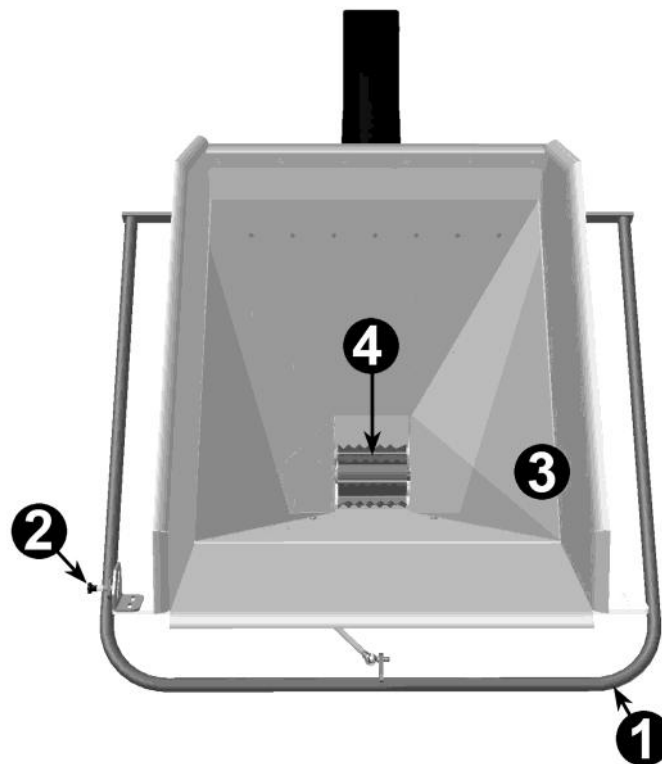
C. The shredding unit.

The unit is composed of a feed hopper (3), a serrated feed roller (4) and a shredding rotor.

Roller cylinder.

This carries the material at constant speed toward the shredding rotor. An anti-jamming system stops it when the speed of the rotor becomes too slow (jam in the shredding unit). It automatically starts up again when the rotor regains sufficient speed to shred correctly.

It can be run in both directions (forward and reverse run) using the bar located underneath the rear of the feed hopper.



Shredding rotor.

The key element of the machine, it shreds the material carried by the feed roller. It has a fixed speed.

D. The discharge shaft

This discharges the shredded material. The upper part can be swivelled 360° in a horizontal position. Its cap is adjustable in a vertical position.



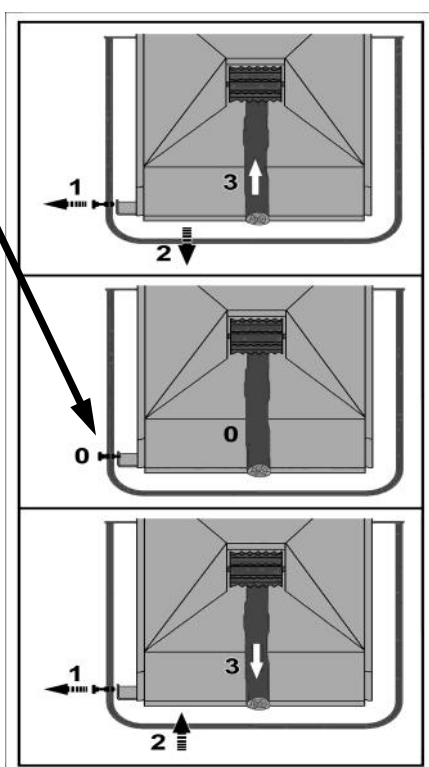
STARTING

INSPECTION PRIOR TO SWITCHING ON

Every operator should read and fully understand all the guidelines and should follow the safety measures given in this section to ensure the safe and efficient operating of the shredder. A list of checks to be carried out prior to use is provided to the user. It is essential that this list is adhered to for the safety of all and to keep the machine in good condition.

The following points should be checked before using the machine:

- 1) Is the machine sufficiently lubricated in accordance with the lubrication schedule as indicated in the user manual?
- 2) Check the different engine levels, i.e.:
the engine oil level
the petrol level or the diesel oil level
- 3) Ensure that the air filter is clean.
- 4) Check the oil level of the hydraulic system.
- 5) Lock the lever command position ameneur on "0"





OPERATING PROCEDURES

WARNING!

If for any unknown reason the shredder has difficulty shredding the material and you have to stop it: **only restart the engine once the cause has been removed and the material has been cleared from the shredding rotor!**

SWITCHING ON

1) Check that the cap at the top of the discharge shaft is open

2) Slightly increase the engine speed using the engine's throttle handle

- engage the starter on the petrol model

3) Start the engine by turning the ignition key.

- disengage the starter (petrol)

4) Increase the engine speed to medium

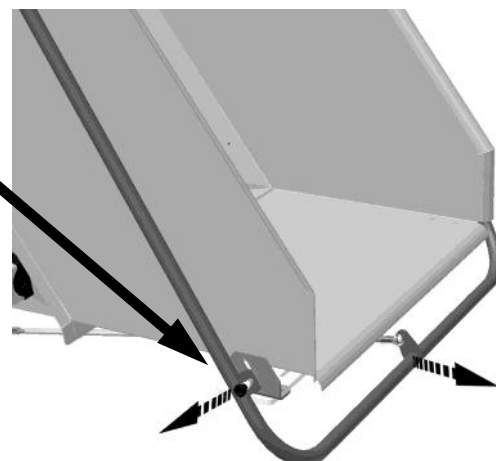
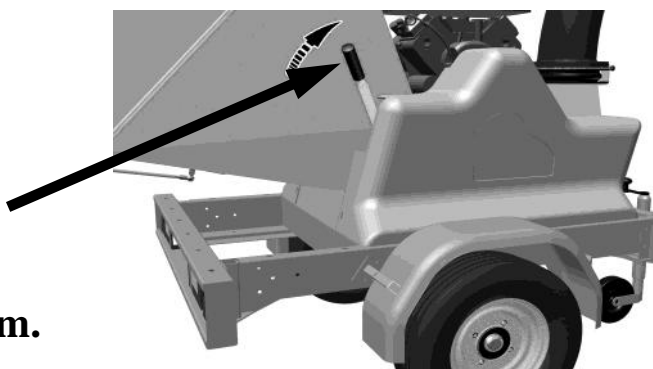
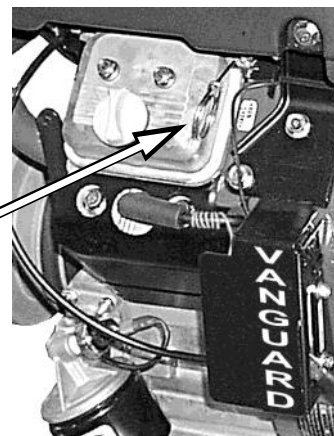
- Let the engine warm up.

5) Engage the rotor by progressively raising the clutch handle.

6) **Increase the engine speed to maximum.**

7) Unlocking the finger indexing and put the feed roller into rotation by pulling the control bar.

8) Start the shredding.



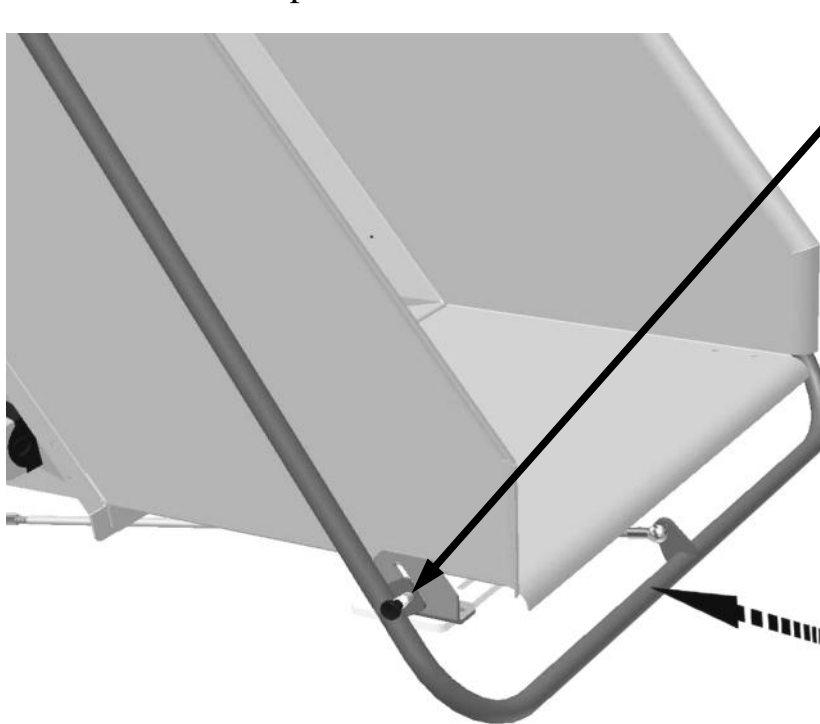


OPERATING PROCEDURES

SWITCHING OFF

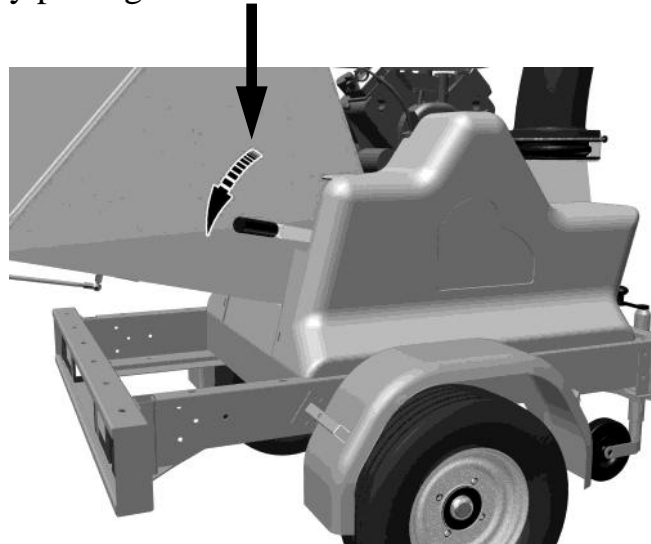
1) Leave the shredder to empty itself for a few minutes to eliminate residual material from behind the feed roller and inside the shredder, which could jam the rotor when the machine is next started up.

2) Push the control bar forward to stop the feed roller so what is locked by the finger indexing



3) Progressively return the throttle handle to idle.

4) Disengage the rotor by pulling the clutch handle downwards



5) Stop the engine by turning the ignition key on the control panel.



MAINTENANCE



MAINTENANCE SAFETY



- 1) Put the parking brake on, remove the ignition key and wait until all the moving parts have stopped before carrying out any maintenance work or repairs.
- 2) Ensure all the protection screens are put back into place after servicing.

LUBRICANT and FUEL quantities:

Cougar Vanguard petrol engine 18 hp: 1,6 litre
Cougar Lombardini diesel engine 17 hp: 1,8 litre

Cougar Vanguard fuel 18 hp: 8,5 litre
Cougar Lombardini fuel 17 hp: 15 litre

Hydraulic oil for all models: 8.5 litre

Recommended **LUBRICANT**:

- 1) Grease for the rotor hammers:

Imperatively use a water-resistant grease of NLGI grade 3 type

- 2) Grease for rollers, drivers and various components:

Use a high-performance, multi-purpose and extreme pressure (EP) SAE grease.

- 3) Hydraulic oil:

Use an oil of grade AFNOR NFE 48600 Types HV iso VG 46

- 4) Engine oil (**petrol model**):

Use an oil of grade SAE 10W30 meeting standards API CF4/SJ

ACEA E2-96 issue 3

Engine oil (**diesel model**):

Use an oil of grade SAE 15W40 meeting standards API CF4/SJ

ACEA E2-96 issue 3



MAINTENANCE

MAINTENANCE SCHEDULE

For more information on the maintenance of the petrol and diesel engines, please consult the engine manufacturer's manual delivered with the machine.

No. of hours	Servicing
Daily	<ul style="list-style-type: none"> -Check engine oil level -Ensure that the air filter is clean. -Ensure that the petrol/diesel engine air cooling systems are clean: cylinder air vent
Every 50 hours	<ul style="list-style-type: none"> -Check of knives and hammers -Check tension of rotor's transmission belts -Lubrication of the feed roller bearings -Check and remove the branches winding around the bearings' axes and the hydraulic motors
Every 100 hours	-Check tightening of coupler head's articulation joints
Every 200 hours	-Verification wear rings hammers
Every 300 hours	<ul style="list-style-type: none"> -Change hydraulic oil filter for first time and then every 500 hours (or every 2 years) -Inspect wear of counter-blade -Check battery electrolyte level
Every 500 hours	<ul style="list-style-type: none"> -Verification wear rings hammers -Change hydraulic oil (or every 2 years) -Change hydraulic return oil filter (or every 2 years) -Change suction strainer in the reservoir (p.34)

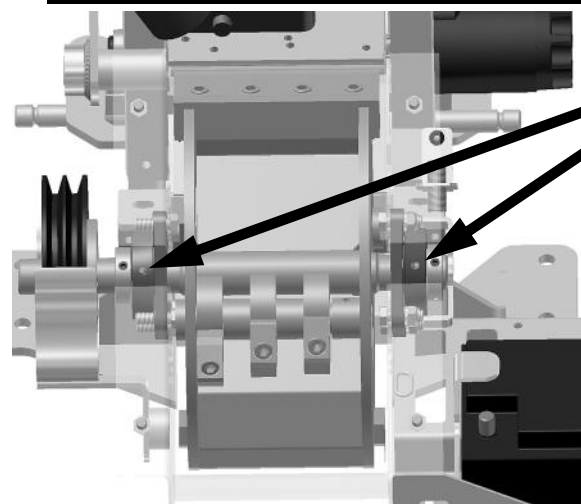


MAINTENANCE

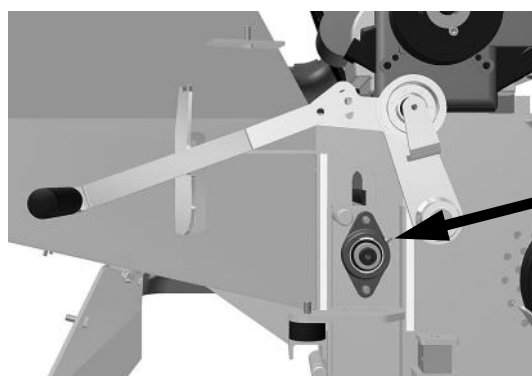
LUBRICATION POINTS



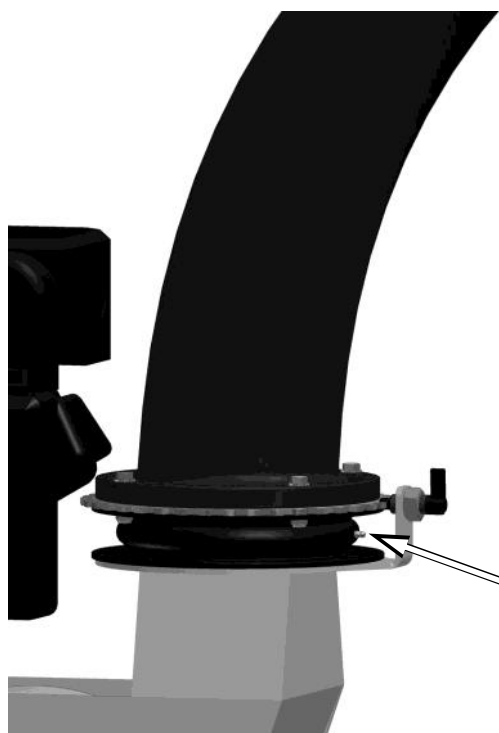
Stop the engine and remove the ignition key before carrying out any lubrication



LUBRICATING THE ROTOR BEARINGS



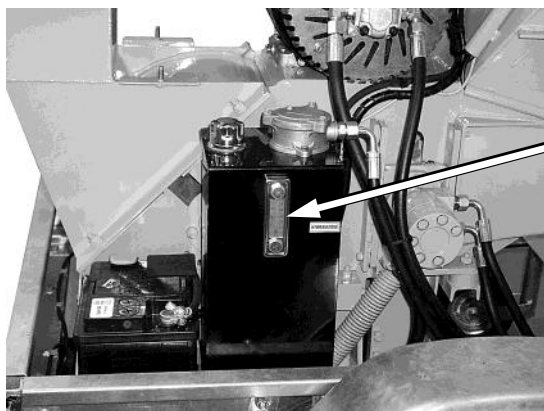
LUBRICATION OF THE FEED ROLLER BEARINGS



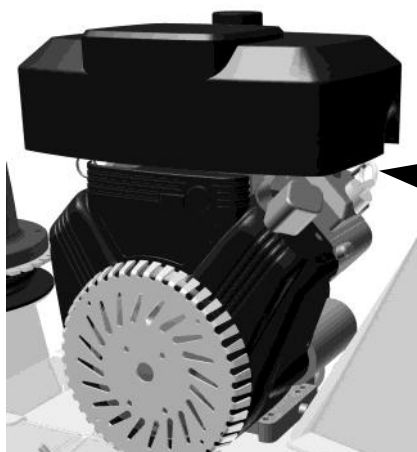
DISCHARGE CHUTE



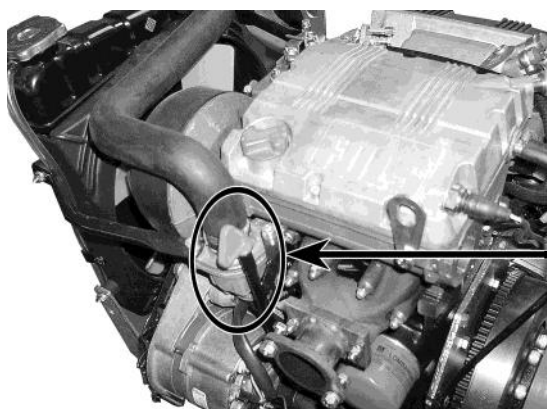
MAINTENANCE



HYDRAULIC RESERVOIR LEVEL



VANGUARD
PETROL ENGINE OIL GAUGE



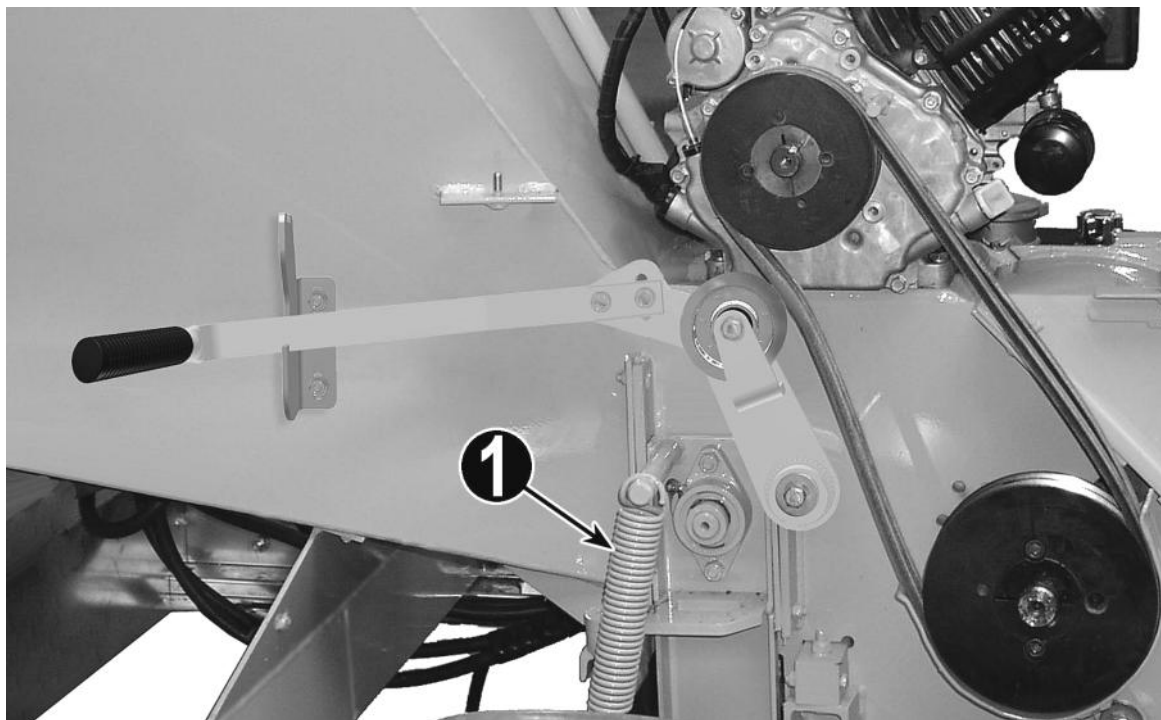
LOMBARDINI
DIESEL ENGINE OIL GAUGE



MAINTENANCE

PRESSURE OF THE FEED DRUM ON THE MATERIAL

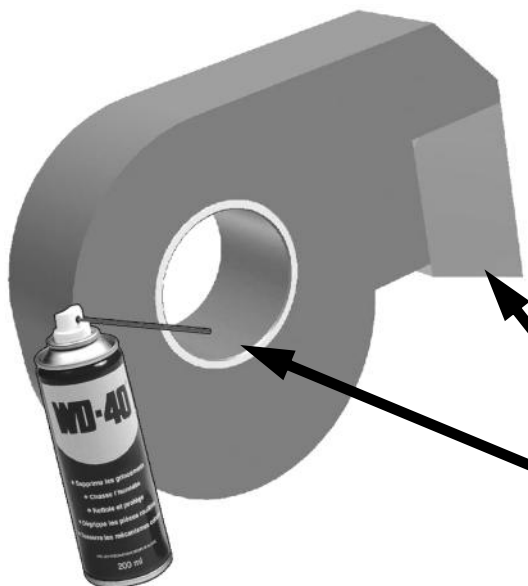
The feed drum exerts pressure on the material via the springs (1).



CONTROL BLADES AND HAMMER INSERTS

For easier maintenance, henceforth the hammers are mounted without lubricator but with special wear rings.

The lack of lubricators on the hammers however should not stop you from inspecting the hammer discs and blades on a regular basis.



Upon inspection, check whether the hammers are rotating freely.

In case there is a coarseness, spray penetrating grease onto the axles and tap the hammer(s) using a mallet.

Frequency of inspections:

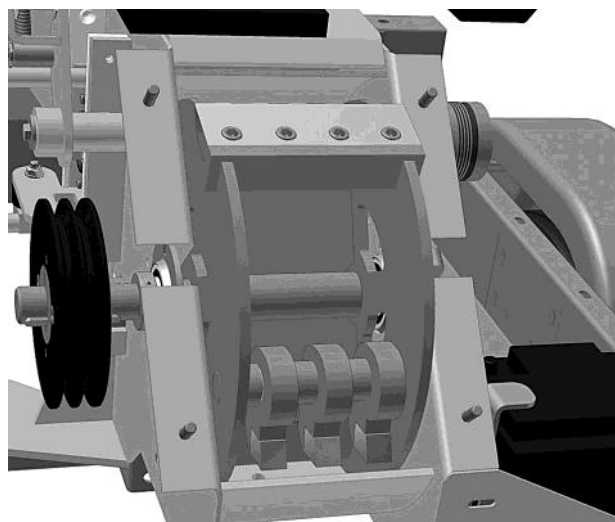
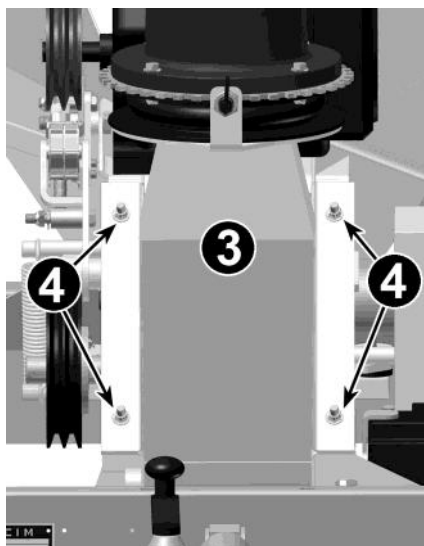
- control blades and hammer inserts : 50h
- Verification wear rings hammers: 200h



MAINTENANCE

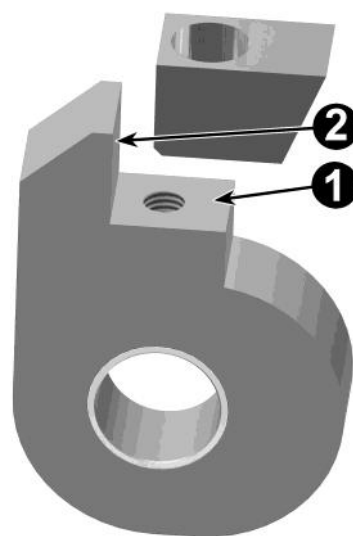
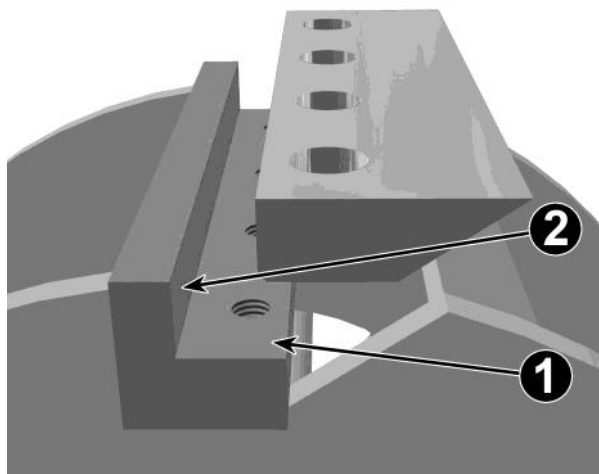
DISASSEMBLY FOR THE CHANGING OF BLADES AND HAMMER PELLETS

It is imperative to remove the ignition key before this type of servicing.



To access to the blades and pellets, remove the 4 nuts **(4)** and the main body extender **(3)** along with the shaft.

- Check that the hammers can rotate freely around their axle.



- The hexagonal socket head screws holding the blades and hammer pellets are factory mounted using a normal LOCTITE thread-lock adhesive. To disassemble, use a suitable wrench in good condition.
- Remove all the blades and hammer pellet screws (when reassembling, only use new, well degreased screws).
- Clean the support surfaces; seats **(1)** and heels **(2)**; blades and hammer pellets.



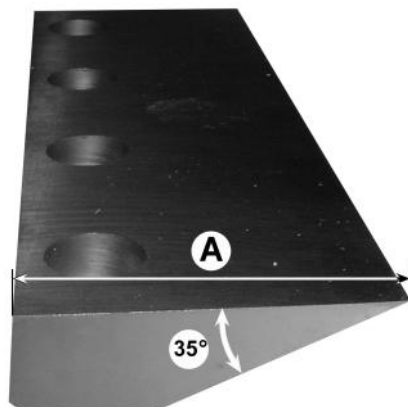
MAINTENANCE

-Remount new or sharpened blades of identical weight.

IMPORTANT: Sharpening should be carried out by a professional on a machine specially adapted for that purpose, and not with a grinding machine.

Also ensure that a cutting edge angle of 35° is maintained.

The minimum length (A) after sharpening should not be less than 50mm. (The length of a new blade is 60 mm).



-Retighten the screws with thread lock at a torque of 16 M. Kg ensuring that the blades and pellets are resting on their heel.

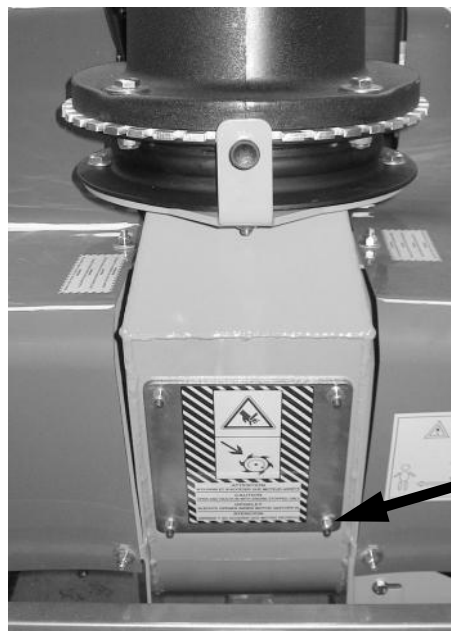


IMPORTANT: always take care to install new well-degreased screws so that the thread lock can adhere correctly.

-Reassemble the main body extender **(3)**.

-Start the engine and leave it to rise in temperature for a few minutes.

-Accelerate to mid-speed so that the rotor begins to turn and ensure that no abnormal vibration is disturbing the good operation of the machine.



Trap visit rotor:

Engine shutdown, key contact withdrawn

After unscrewed its four bolts fastening, this visit trap permit to see the wear on cutting tools

Still waiting for the complete cessation of the rotor before unscrew the nuts fixing the door.

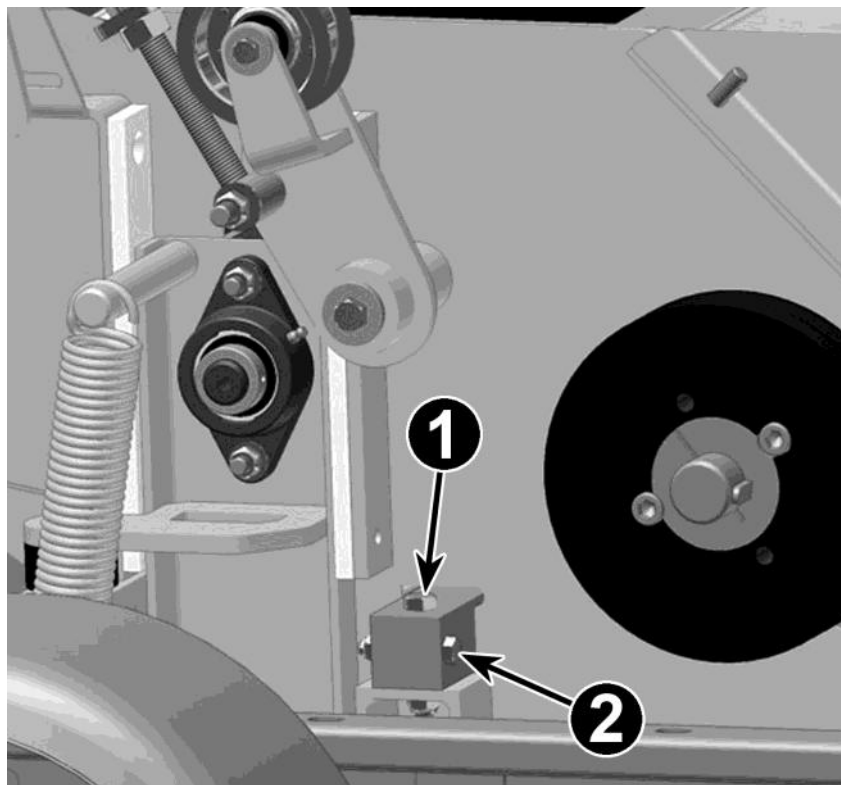


MAINTENANCE

DISASSEMBLY FOR THE INSPECTION OF THE COUNTER-BLADE

It is imperative to remove the ignition key before this type of servicing

- Remove the two attachment bolts (diam.10) **(1)** and the two safety bolts **(2)** (diam.8) at each end of the counter-blade.
- Drive the blade out by sliding it in its housing to either side. If the edge is worn out remove the counter-blade from its housing and remount it by shifting it by a quarter turn so that a new edge is facing the blades.
(Each of the four edges can be used)
- Reinstall the two bolts **(1)** and **(2)**.





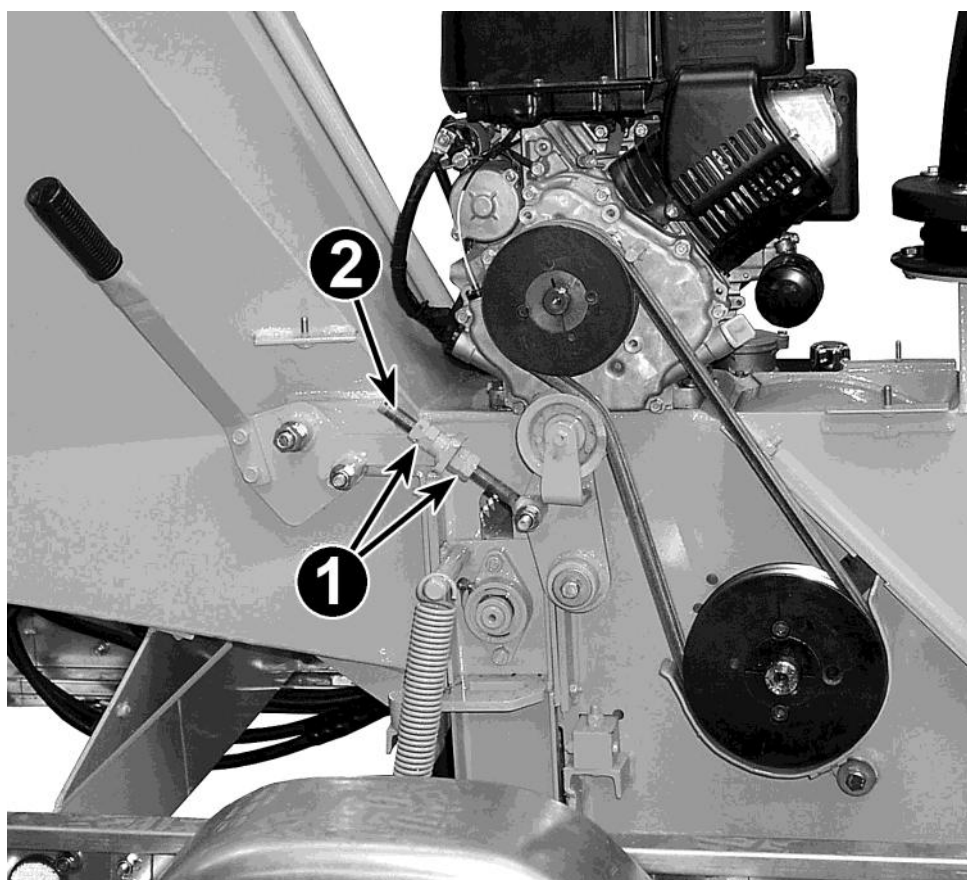
MAINTENANCE

ADJUSTMENT OF THE ROTOR BELTS

The belt tension is adjusted by moving the pulley rod (2) of the roller strainern, applying pressure on the lock nuts (1).

Take care not to tighten the belts excessively.

This procedure should be carried out by a qualified technician.



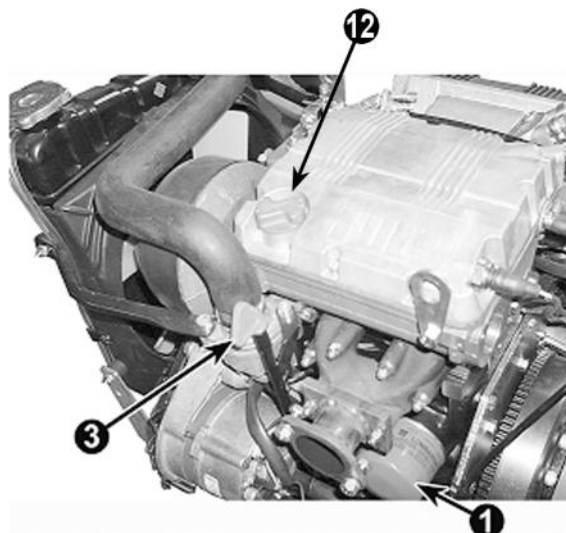


DESCRIPTION AND HANDLING

DESCRIPTION OF THE ENGINE AND CONTROL PANEL

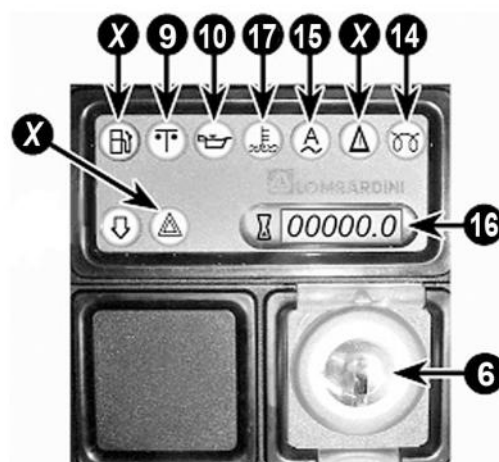
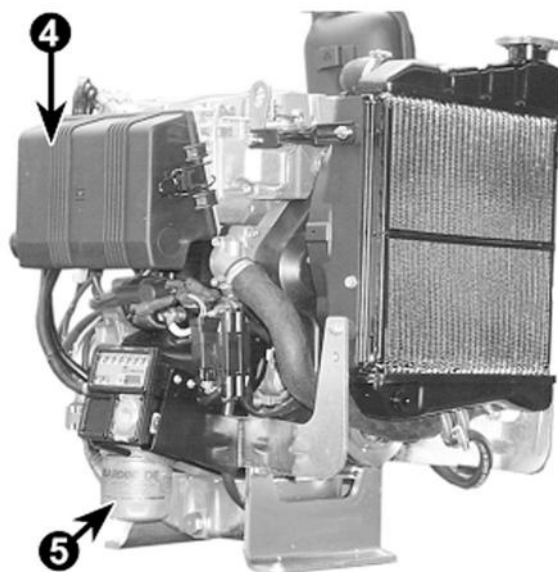
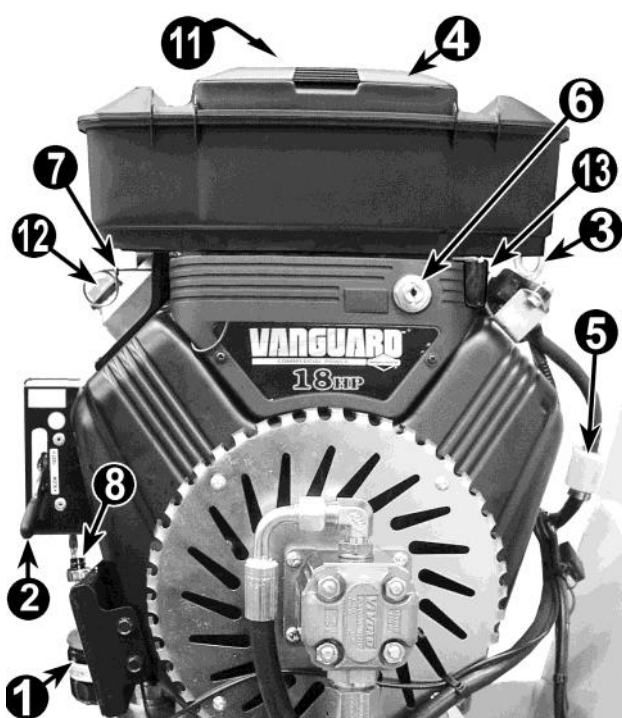
- (1) Oil filter
- (2) Throttle handle
- (3) Oil gauge
- (4) Air filter
- (5) Fuel filter
- (6) Ignition key
- (7) Starter
- (8) Oil pressure switch
- (9) Correct functioning indicator (OK)
- (10) Oil pressure indicator
- (11) Fuel cap
- (12) Oil cap
- (13) Fuel cock
- (14) Preheating indicator
- (15) Charge indicator
- (16) Hour meter
- (17) Water temperature indicator
- (X) No utility

LOMBARDINI 17 Cv DIESEL



Engine shutdown in case of an anomaly detected by controllers (8), (10) and (17)

VANGUARD 18HP PETROL



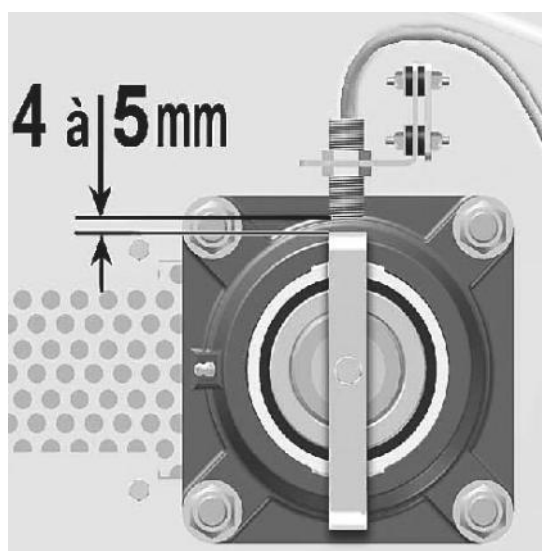


DESCRIPTION AND HANDLING

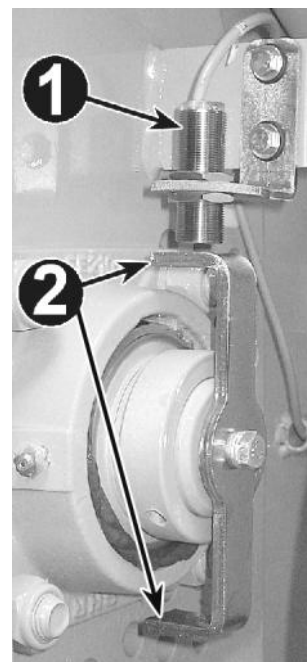
VarioStress ANTI-JAM SYSTEM

The CASTOR & COUGAR machine is equipped with a controller of the rotation of the rotor that is linked to an automat. Hence, we can prevent the machine from being blocked: permanent information about the rotating speed of the rotor is being sent to the VarioStress. When the rotor speed falls below a factory-set threshold, the hydraulic supply of the feed is interrupted. The feed and belt will stop, the machine will no longer be fed material and the engine can reach its working speed again (3600T/mn). When the speed exceeds the lower threshold, the feed roll and belt are supplied with oil again and the engine starts running again.

There are three anti-obstruction settings: see the next page



The distance between the speed controller (1) and the pulse device (2) is 0,16 to 0,20 in (4 to 5 mm).



The 10 Amp protection fuses (4) 1 are located:

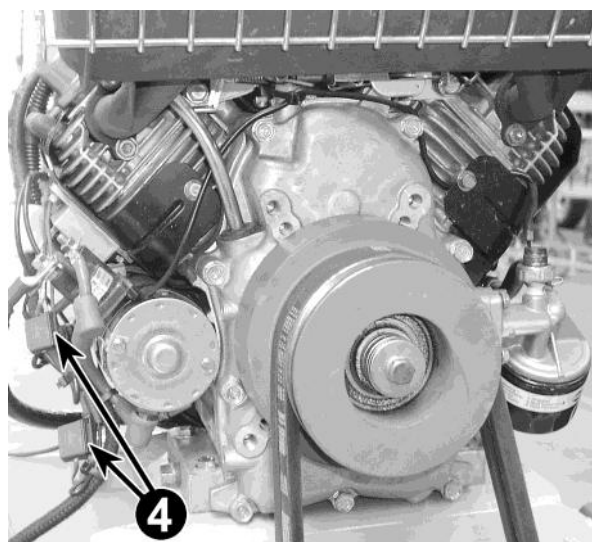
Cougar Petrol Vanguard 18 hp:

- 2 next to the starter

Cougar lombardini 17 hp:

- 1 next to the starter
- 1 in the shunt box

NB: for **Diesel** models, there is also an original 15 Amp. Fuse in the Lombardini control panel.





DESCRIPTION AND HANDLING

ANTI-OBSTRUCTION SYSTEM VarioStress:

Different settings:

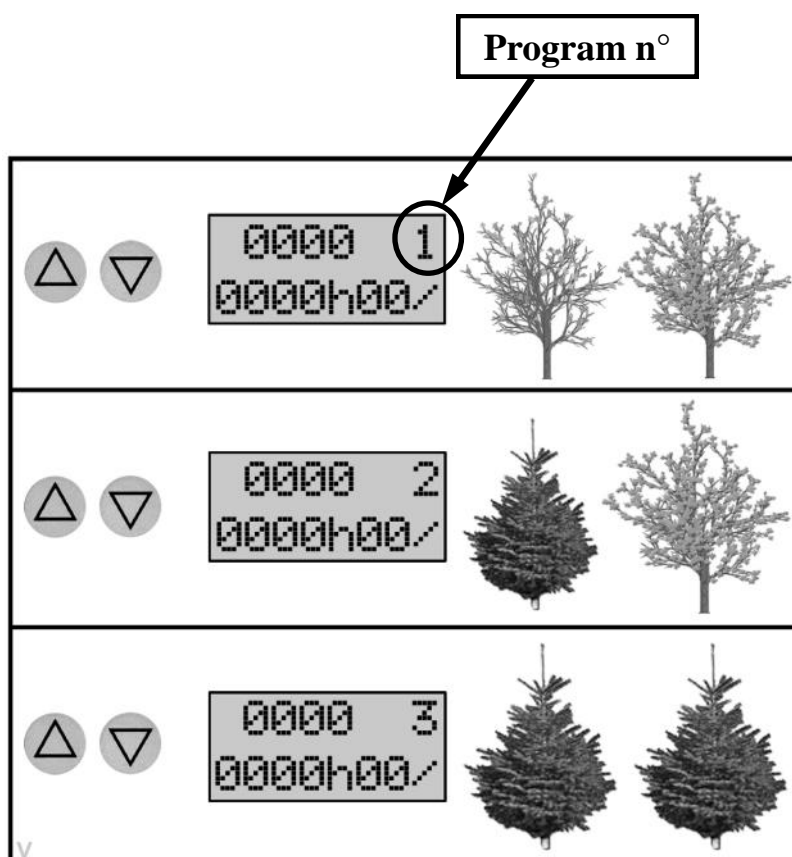
The VarioStress anti-obstruction system has three preset configurations. The user can choose the one that is most appropriate for the material at hand.



Configuration 1: favours functioning at a wide range of motor speeds, mainly suitable for chipping branches and light materials

Configuration 2: suitable for manipulating mixed materials consisting of branches, vegetation and conifers.

Configuration 3: a higher engine speed to improve ventilation for chipping plants and conifers or heavy and dense materials during a long period of time





DESCRIPTION AND HANDLING

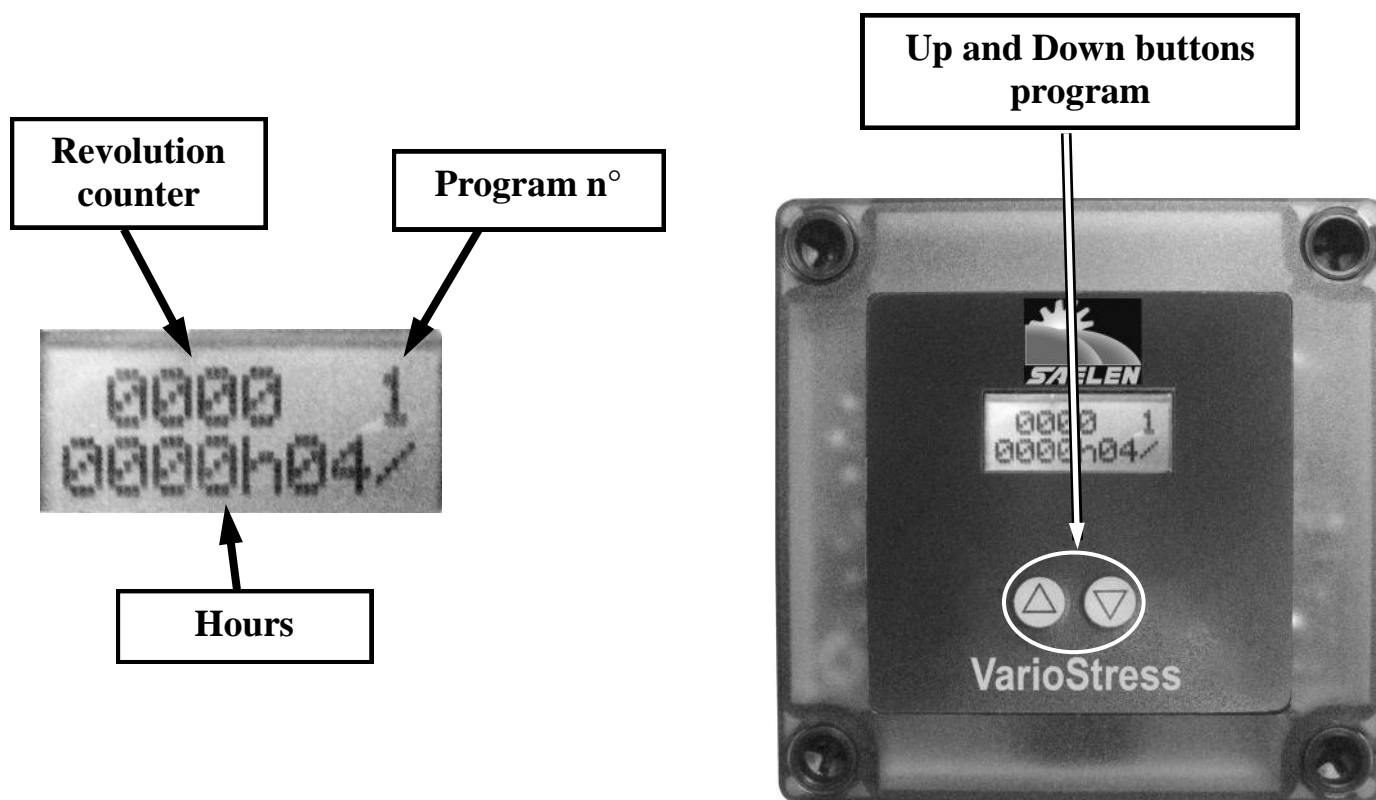
ANTI-OBSTRUCTION SYSTEM VarioStress: cont.

Selecting a setting:

- Engine functioning or stopped, contact activated
- Use the buttons **Up** and **Down** to indicate the desired range.

Rem.: push during 1 to 1,5 seconds to change the program.

(If you do this after the engine has stopped, you have 10 seconds after making contact to perform this action, then the VarioStress is automatically shut down).



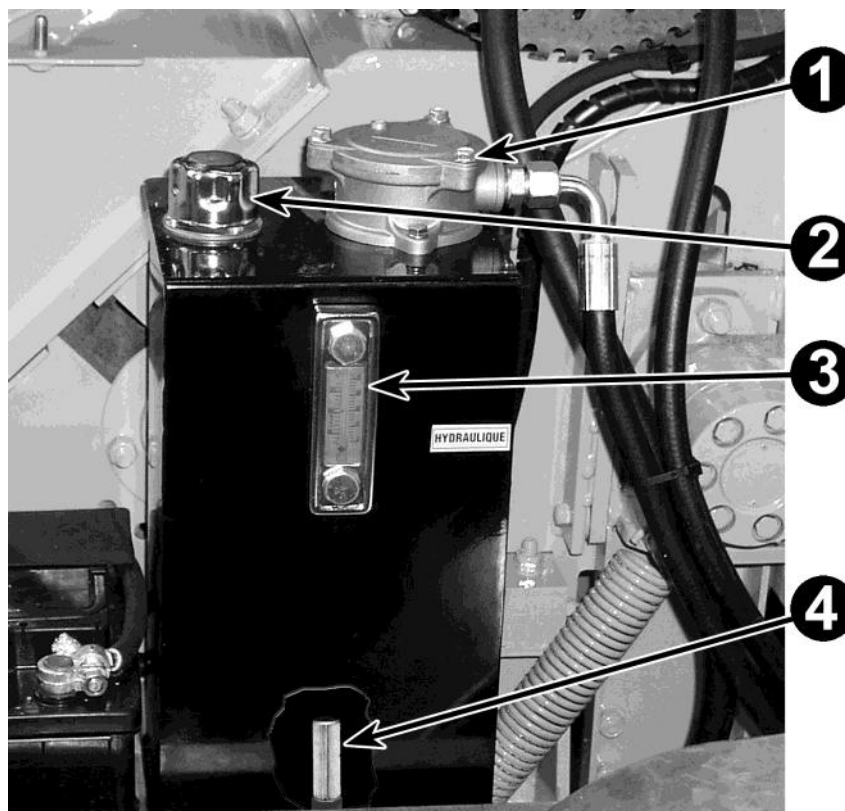
**See Use of the machine in manual mode on page 64
+ intervention technician p.52**



DESCRIPTION AND HANDLING

HYDRAULIC RESERVOIR

- Hydraulic return filter (1)
- Oil filler cap (2)
- Reservoir level gauge (3)
- Suction strainer (4) in the reservoir
(accessible by removing the suction port
under the reservoir)





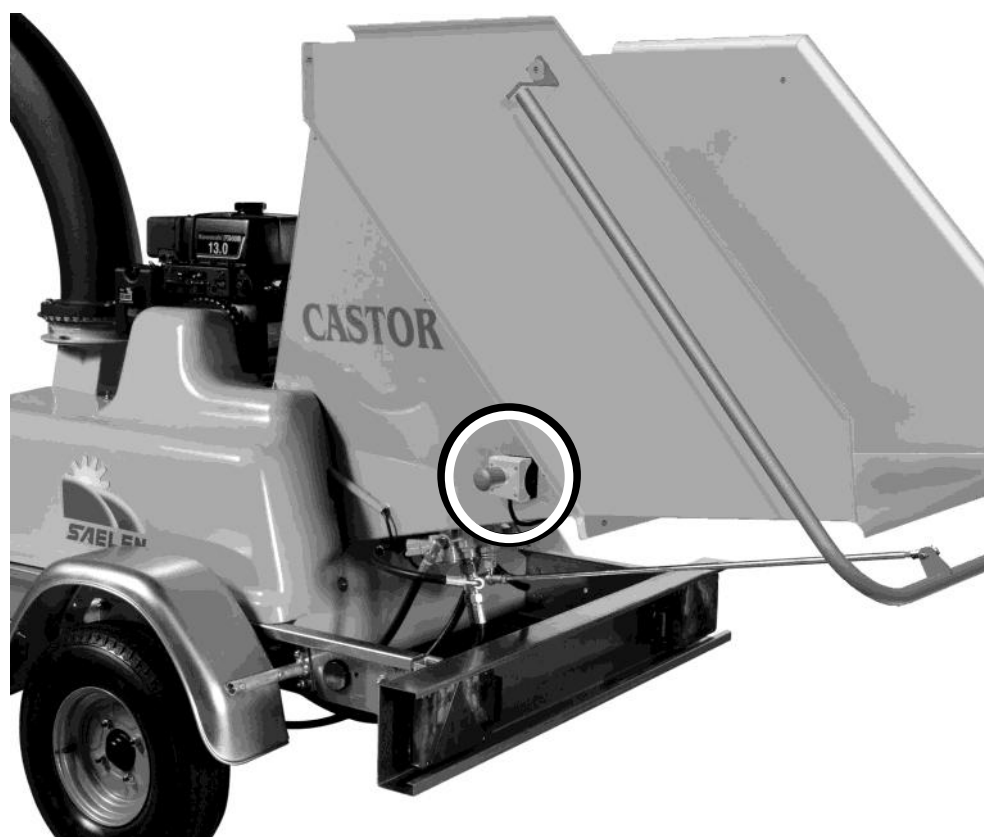
DESCRIPTION AND HANDLING

EMERGENCY STOP BUTTON

The machine has two emergency circuit breaker buttons placed at either side of the feed hopper.

When they are activated, these circuit breaker buttons have two functions:

- 1) stopping the heat engine
- 2) instantly stopping the forward run of the feed roller





PROBLEM-SOLVING

In this section we have compiled a list of problems, their causes and their solutions, in the possible case that you meet one.

If you come across a problem that is not covered in the troubleshooting section, please contact your dealer. Have your user manual and the serial number of your shredder to hand.

PROBLEM	CAUSE	SOLUTION
The engine does not start	<ul style="list-style-type: none"> - Emergency circuit-breaker safety catch(es) is (are) engaged. -The battery is flat -The power supply cables are damaged -Engine emergency stop electro valve is defective (diesel) -Fuse in the distribution box or in the watertight fuse holder on the starter cable has burnt out. 	<ul style="list-style-type: none"> - Release the safety catch(es) -Charge or replace the battery -Check the electric circuits -Check the electro valve -Replace the fuse
Engine power reduction	<ul style="list-style-type: none"> -Gas-oil or petrol filter clogged -Blades and hammers blunt 	<ul style="list-style-type: none"> -Replace the filter -Sharpen or replace the blades. Change the hammer pellets
The feeder refuses to run	<ul style="list-style-type: none"> - Hydraulic motor or pump defective -Not enough oil in the reservoir 	<ul style="list-style-type: none"> -Check or replace the defective part -Check the oil level
The rotor is not turning although the engine is running	<ul style="list-style-type: none"> -Belts defective or insufficiently tightened 	<ul style="list-style-type: none"> -Replace and/or adjust the belt tension pulley
The machine has difficulty shredding	<ul style="list-style-type: none"> -Blades and hammers are blunt -Belts defective or insufficiently tightened -Anti-jamming system not functioning -Clutch has no more power 	<ul style="list-style-type: none"> -Sharpen or replace the blades. Change the hammer pellets -Replace and/or tighten the belts -Check the fuse -Contact your dealer
Feeding in forward operation is not regulated, not even below the Variostress intervention threshold	<ul style="list-style-type: none"> -Fuse burnt out 	<ul style="list-style-type: none"> -Replace the fuse(s) (see p.33)



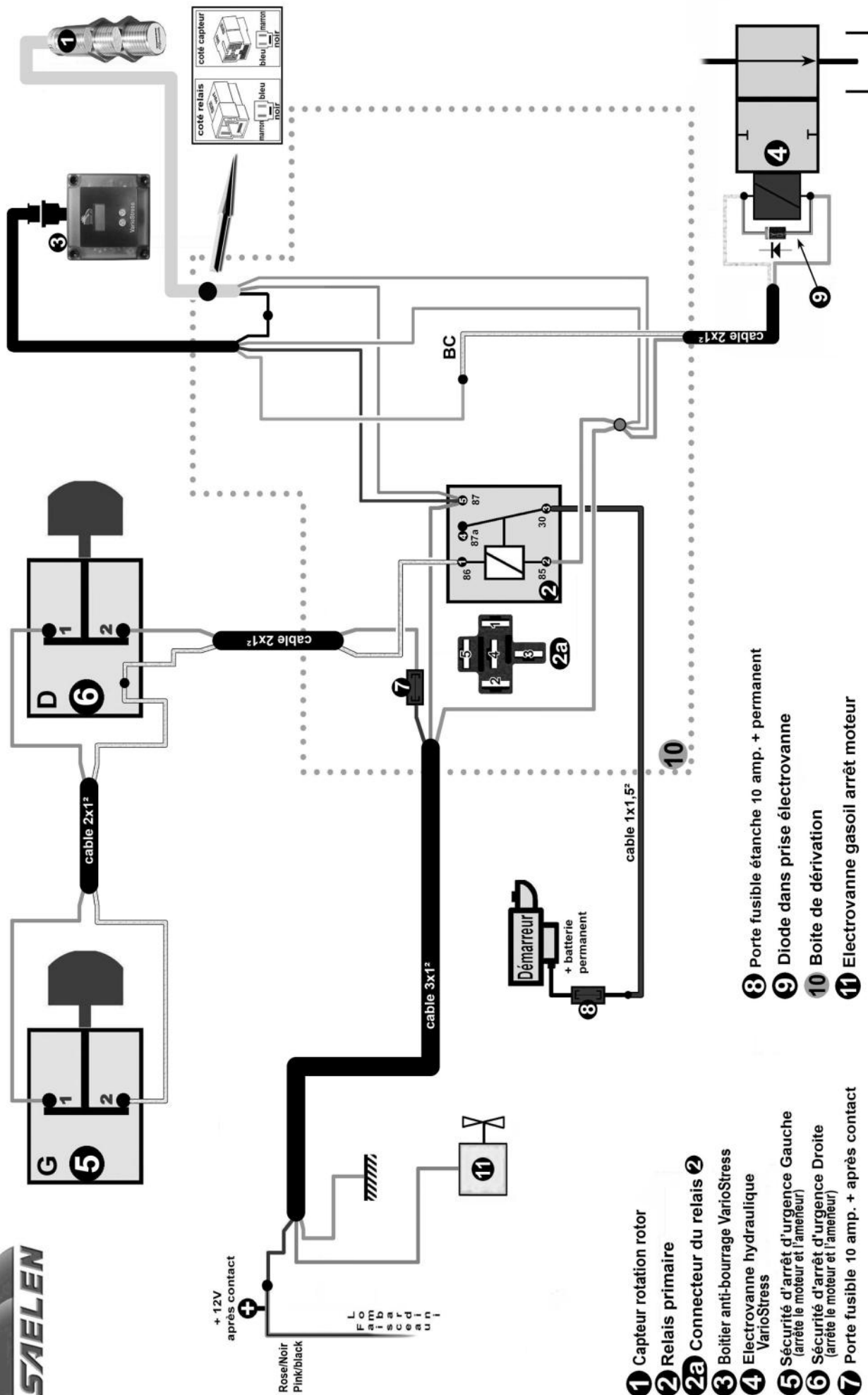
SPECIFICATIONS

	<i>COUGAR ER</i> VANGUARD 18HP PETROL <hr/> <i>COUGAR DR</i> LOMBARDINI DIESEL 17HP
Capacity:	90 mm hardwood 100 mm softwood
Hourly output:	10 m ³
Length:	3,20 m
Width:	1,33 m
Height:	1,91 m
Weight:	ER: 480 Kg DR: 500 Kg
Number of hammers:	6
Number of knives:	2
Rotor diameter:	400 mm
Rotor weight:	40 Kg
Rotor width:	200 mm
Engine power:	18 Hp Vanguard diesel
Fuel capacity:	8,5 L.
Engine speed:	3600 Tmn
Rotor speed:	2650 T/mn
Anti-jamming:	YES
Hydraulic power supply:	YES
Hydraulic capacity:	8,5 L.
Hydraulic pressure:	150 bar
Road axle:	YES
Number of wheels:	2
Tyre dimensions:	5.00x10
Air pressure:	2 bar



CIRCUIT ELECTRIQUE COUGAR 17DR EVO

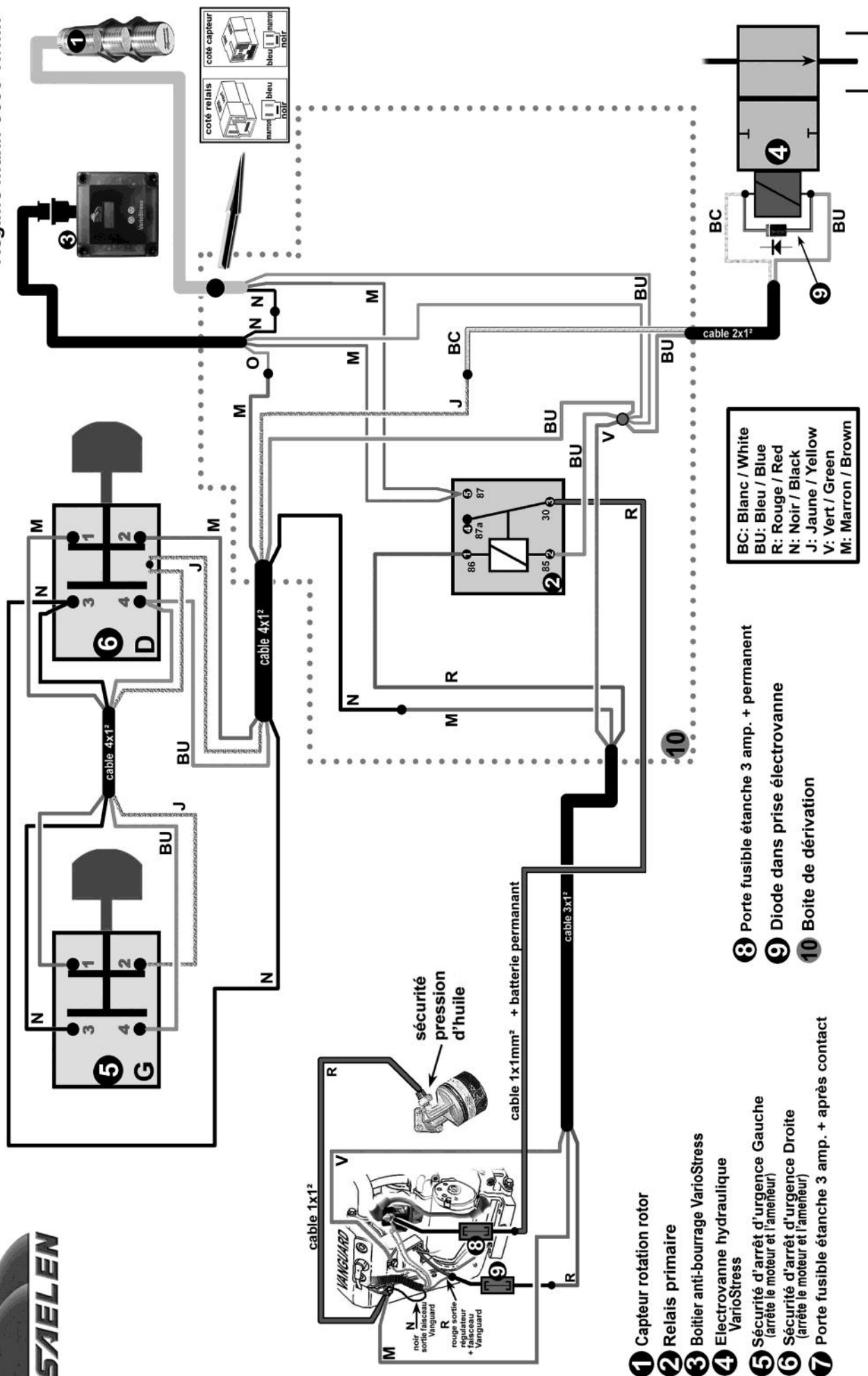
LOMBARDINI Diesel 17CV
 Régime maxi: 3600 Tr/mn

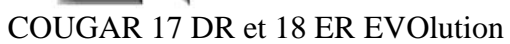




CIRCUIT ELECTRIQUE COUGAR 18ER EVO

VANGUARD 18HP
Régime maxi: 3600 Tr/mn







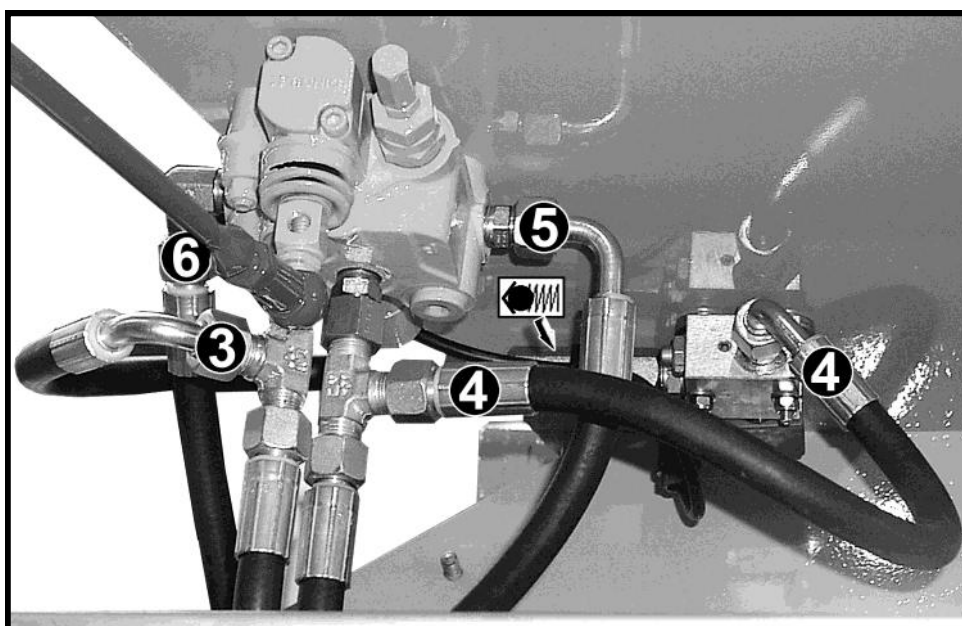
HYDRAULIC COUPLING

COUGAR

CONNECTION OF THE HYDRAULIC HOSES



- (1): lg 1000
- (2): lg 1000
- (3): lg 400
- (4): lg 400
- (5): lg 1400
- (6): lg 1400
- (7): lg 800





DECLARATION OF CONFORMITY

THE *TS industrie* Company

3 rue Jules Verne
L'Orée du Golf
59790 RONCHIN FRANCE
Tel : 0.820.201.880 - Fax : 0.820.201.990

HEREBY DECLARES THAT THE MACHINE :

Trademark: ***TS industrie™*** Type : **COUGAR 18 ER**

Engine power: **13,4 KW à 3600 RPM**

Technical documentation detained by Stéphane MORBU.

that the product is in conformity with the following European directives:

- **2006/42/CE** “EG-Maschinenrichtlinie” Norm
- **2004/108/CEE** “Elektromagnet” Norm
- **97/68/CE** “Vergiftung” Norm
- **2000/14/CE** “Schall” Norm

Conformity appraisal process concerning directive 2000/14/CE
Appendix V.

<i>Installed capacity at 3600 Tr/Min</i>	<i>Measured acoustic capacity</i>	<i>Guaranteed acoustic capacity</i>
13,4 Kw	123 dBA	126 dBA

References of harmonized standards used:

- **EN 13525**

Made in RONCHIN, on September 4th 2006

Stéphane MORBU (Manufacturing Engineer *TS-industrie*)



DECLARATION OF CONFORMITY

THE *TS industrie* Company

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59790 RONCHIN FRANCE
Tel : 0.820.201.880 - Fax : 0.820.201.990

HEREBY DECLARES THAT THE MACHINE :

Trademark: ***TS industrieTM***

Type : **COUGAR 17 DR**

Engine power: **13 KW à 3600 RPM**

Technical documentation detained by Stéphane MORBU.

that the product is in conformity with the following European directives:

- **2006/42/CE** “EG-Maschinenrichtlinie” Norm
- **2004/108/CEE** “Elektromagnet” Norm
- **97/68/CE** “Vergiftung” Norm
- **2000/14/CE** “Schall” Norm

Conformity appraisal process concerning directive 2000/14/CE
Appendix V.

<i>Installed capacity at 3600 Tr/Min</i>	<i>Measured acoustic capacity</i>	<i>Guaranteed acoustic capacity</i>
13 Kw	123 dBA	126 dBA

References of harmonized standards used:

- **EN 13525**

Made in **RONCHIN**, on September 6th 2010

Stéphane MORBU (Manufacturing Engineer *TS-industrie*)



EXPERT IN MOBILE WOOD CHIPPERS

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